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ATTACK ON THE NORTH VIETNAM PETROLEUM STORAGE SYSTEM - A STUDY

Prepared by J-3, Joint Staff
in collaboration with DIA

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TABLE OF CONTENTS

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A. GENERAL

1. (S) All petroleum products consumed in the Democratic Republic of Vietnam (DRV) are imported in the refined condition, so that in-country POL facilities consist of those required to receive, store, and distribute these products. Consumption has increased steadily during the past four years. In 1965, deliveries averaged some 12,000 metric tons (MT) per month through September, and increased to nearly 19,500 MT/mo for October - December. All but a single 2000-ton CHICOM shipment by Japanese tanker in March came from the Soviet Union.

2. (S) About 95 percent of all imports are by bulk tanker deliveries at Haiphong, the only DRV port capable of receiving such shipments. Enclosure A summarizes these deliveries during 1964 and 1965. Primary in-country bulk distribution is normally by railroad tank car, but ROLLING THUNDER rail interdiction has forced extensive use of highway and waterway carriers.

3. (S) Known DRV POL storage capacities (shown in Enclosure B) are quite large in relation to requirements. General POL architectural engineering standards for comparable operations would indicate a storage requirement, for handling receipts, distribution, and consumption, on the order of $1\frac{1}{2}$ times monthly consumption. The surviving known storage capacity of some 179,000 MT is seen to be nearly ten times this standard on the basis of past consumption averages, or almost six times it on the basis of the October - December imports. The DRV POL storage capacity thus could support substantial stockpiling in addition to handling normal through-put.

4. (S) The military forces, including military transport, use about 60 percent of total POL consumption, with the

remainder used principally by the government-operated transportation systems. POL is of only secondary significance to the limited DRV industrial base and general civilian economy, which themselves consume only minor quantities, and are not critically dependent upon the POL-powered segment of transportation.

B. TARGET SYSTEM

5. (S) Other than the railroad tank cars and other carriers used for internal distribution (which would normally be included in LOC interdiction attack plans, as distinguished from attacks specifically against POL), the POL target system consists of the known fixed storages and their facilities. Thirteen known significant DRV POL storage areas are targeted, which before the US air attacks comprised about 97 percent of the total national storage capacity of 216,000 MT. Attacks to date on four of these targets have reduced this capacity to 179,000 MT. Fifty-nine percent of this remaining capacity is concentrated in two storages, one in a lightly populated area outside Hanoi and another similarly located near Haiphong. Six additional significant storages are located in lightly populated or isolated rural areas, and three are in lightly populated urban areas. Additional details are in Enclosure B.

6. (TS) During the past twelve months, the DRV appears to have begun a dispersal program encompassing a series of small buried POL storage facilities. To date nine have been identified, with estimated capacities ranging from 51 to 690 MT each. There may be others not yet detected, and more probably planned. Considering the storage requirements to support distribution and consumption only, as distinguished from stockpiling, it would appear that DRV storage requirements could ultimately be met by a feasible extension of this program. Because of their small capacities these dispersed sites are not included in the JCS numbered target list, and are considered suitable only for armed reconnaissance attack.

C. ATTACK CONSIDERATIONS

7. (TS) Successful attack of the POL system, completed before the DRV completes an adequate dispersed system such as discussed above, would be more damaging to the DRV capability to move war-supporting resources within country, and along the infiltration routes to South Vietnam, than would attack of any other single target system. Both the DRV military, which uses some 60 percent of total DRV POL, and the government transportation system which uses nearly all the remainder, will be directly affected. The flow of supplies to all DRV or DRV-supported military forces, both in country and along the infiltration routes to South Vietnam and Laos, would be substantially impeded, since POL-fueled carriers are the primary vehicles for this transport, and the demands upon them have been increased by the interdiction program. Those demands would be further increased by destruction of bulk storage and distribution facilities, which would force reliance upon emergency storage and distribution methods. Additional details are in Enclosure C.

8. (S) On the other hand, the effects on the minimal DRV industry and the civilian economy in general would not be large. The economy, including industry, is powered by coal or by electricity generated in coal thermal electric or hydroelectric plants. Private per capita POL consumption has been estimated as less than one quart per year. And the principal nommilitary transportation requirements normally served by POL-powered transport can be served austerely by other means such as animal transport and nonpowered water craft.

9. (S) The most important target in the POL system, and first priority for attack, is the Haiphong POL storage. Its capacity of 72,000 MT represents over 40 percent of the total remaining known DRV bulk storage capacity. More importantly, it is the only facility capable of receiving, handling and

distributing the bulk deliveries by ocean-going tankers, normally over 10,000 MT per arriving tanker, which are the primary and most total means of supply. Weight of attack on this facility should be such as to afford good assurance of reducing residual capacity well below requirements to handle these arriving shipments, i.e., of destroying on the order of 85 percent of capacity.

10. (S) Attack on Haiphong POL should be closely followed by attack on the remaining principal POL targets, since otherwise their substantial excess of capacity over requirements could support consumption for an extended period, during which time lighterage via coastal and inland waterways, and other measures including dispersed storages, could be developed to compensate for the loss of the Haiphong facility. For DRV recovery capabilities, see Enclosure D.

11. (TS) Attack on the foregoing system has been analyzed as to selection of targets, weights of attack, and tactics with respect to DRV defenses. Tactical air forces now deployed in Southeast Asia can destroy all POL targets with only light damage to surrounding areas and approximately 52 civilian casualties. It is estimated that the total weight of effort to attack the DRV POL system is 370 strike/80 flak suppression sorties for a total of 450 sorties. Aircraft losses are estimated at not more than 11, or 2.4 percent. Periodic restrikes based upon reconnaissance may be required to maintain the POL facilities inoperable.

Enclosure A - Tankers Calling at Haiphong
Enclosure B - Description of DRV POL System
Enclosure C - Impact of a Successful Air Attack Against the DRV POL System
Enclosure D - Attack Recoverability of DRV POL System

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